1600

RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: US/09/744,100C   TIME: 11:09:41

Input Set : **A:\BB1174 US PCT seqlistAmd.txt**
Output Set: **N:\CRF4\08082003\I744100C.raw**

```
 3 <110> APPLICANT: Cahoon, Rebecca
 4         Gutteridge, Steven
 5         Lee, Jian-Ming
 6         McGonigle, Brian
 7         Rafalski, Antoni
 9 <120> TITLE OF INVENTION: Ornithine Biosynthesis Enzymes
11 <130> FILE REFERENCE: BB-1174
13 <140> CURRENT APPLICATION NUMBER: 09/744,100C
14 <141> CURRENT FILING DATE: 2001-01-16
16 <150> PRIOR APPLICATION NUMBER: PCT/US99/15931
17 <151> PRIOR FILING DATE: 1999-07-14
19 <150> PRIOR APPLICATION NUMBER: 60/093,209
20 <151> PRIOR FILING DATE: 1998-07-17
22 <160> NUMBER OF SEQ ID NOS: 12
24 <170> SOFTWARE: Microsoft Office 97
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Does Not Comply
Corrected Diskette Needed

ERRORED SEQUENCES

P.14

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556 <210> SEQ ID NO: 12
557 <211> LENGTH: 346
558 <212> TYPE: PRT
559 <213> ORGANISM: Artificial Sequence
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562 <223> OTHER INFORMATION: Description of Artificial Sequence:CONSENSUS
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566 <222> LOCATION: (2)
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571 <222> LOCATION: (3)
572 <223> OTHER INFORMATION: Xaa = Leu OR Ala
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576 <222> LOCATION: (4)
577 <223> OTHER INFORMATION: Xaa = Thr, Ala, OR Gly
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580 <221> NAME/KEY: UNSURE
581 <222> LOCATION: (5)
582 <223> OTHER INFORMATION: Xaa = Lys OR NONE
584 <220> FEATURE:
585 <221> NAME/KEY: UNSURE
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RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: US/09/744,100C   TIME: 11:09:41

Input Set : **A:\BB1174 US PCT seqlistAmd.txt**
Output Set: **N:\CRF4\08082003\I744100C.raw**

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592 <223> OTHER INFORMATION: Xaa = His, Tyr, OR NONE
594 <220> FEATURE:
595 <221> NAME/KEY: UNSURE
596 <222> LOCATION: (8)
597 <223> OTHER INFORMATION: Xaa = Leu OR NONE
599 <220> FEATURE:
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601 <222> LOCATION: (9)
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605 <221> NAME/KEY: UNSURE
606 <222> LOCATION: (10)
607 <223> OTHER INFORMATION: Xaa = Asn, Ser, Ala, OR NONE
609 <220> FEATURE:
610 <221> NAME/KEY: UNSURE
611 <222> LOCATION: (11)
612 <223> OTHER INFORMATION: Xaa = Ser, Lys, OR Pro
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615 <221> NAME/KEY: UNSURE
616 <222> LOCATION: (12)
617 <223> OTHER INFORMATION: Xaa = Leu, Ser, Thr, OR Ala
619 <220> FEATURE:
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621 <222> LOCATION: (13)
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626 <222> LOCATION: (14)
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631 <222> LOCATION: (15)
632 <223> OTHER INFORMATION: Xaa = Val, Leu, OR Asn
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636 <222> LOCATION: (16)
637 <223> OTHER INFORMATION: Xaa = Pro OR Leu
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640 <221> NAME/KEY: UNSURE
641 <222> LOCATION: (17)
642 <223> OTHER INFORMATION: Xaa = Ser OR Cys
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645 <221> NAME/KEY: UNSURE
646 <222> LOCATION: (18)
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RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: **US/09/744,100C**   TIME: 11:09:41

Input Set : **A:\BB1174 US PCT seqlistAmd.txt**
Output Set: **N:\CRF4\08082003\I744100C.raw**

647 <223> OTHER INFORMATION: Xaa = Pro, Thr, OR Ala
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650 <221> NAME/KEY: UNSURE
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656 <222> LOCATION: (20)
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662 <223> OTHER INFORMATION: Xaa = Ser OR Pro
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666 <222> LOCATION: (22)
667 <223> OTHER INFORMATION: Xaa = Gly, Ser, Phe, OR Asn
669 <220> FEATURE:
670 <221> NAME/KEY: UNSURE
671 <222> LOCATION: (24)
672 <223> OTHER INFORMATION: Xaa = Thr, Ala, OR Asn
674 <220> FEATURE:
675 <221> NAME/KEY: UNSURE
676 <222> LOCATION: (25)
677 <223> OTHER INFORMATION: Xaa = Leu, Pro, OR Lys
679 <220> FEATURE:
680 <221> NAME/KEY: UNSURE
681 <222> LOCATION: (26)
682 <223> OTHER INFORMATION: Xaa = Ser, Pro, Gly, OR Lys
684 <220> FEATURE:
685 <221> NAME/KEY: UNSURE
686 <222> LOCATION: (27)
687 <223> OTHER INFORMATION: Xaa =Ser, Pro, Gln, OR Ala
689 <220> FEATURE:
690 <221> NAME/KEY: UNSURE
691 <222> LOCATION: (28)
692 <223> OTHER INFORMATION: Xaa = Asn OR Ala
694 <220> FEATURE:
695 <221> NAME/KEY: UNSURE
696 <222> LOCATION: (29)
697 <223> OTHER INFORMATION: Xaa = His, Gln, OR Arg
699 <220> FEATURE:
700 <221> NAME/KEY: UNSURE
701 <222> LOCATION: (30)
702 <223> OTHER INFORMATION: Xaa = Ala, Leu, OR Val
704 <220> FEATURE:
705 <221> NAME/KEY: UNSURE
706 <222> LOCATION: (31)
707 <223> OTHER INFORMATION: Xaa = Ser, Lys, Thr, OR Arg

RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: US/09/744,100C   TIME: 11:09:41

Input Set : A:\BB1174 US PCT seqlistAmd.txt
Output Set: N:\CRF4\08082003\I744100C.raw

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711 <222> LOCATION: (32)
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716 <222> LOCATION: (33),
717 <223> OTHER INFORMATION: Xaa = Leu, Ile, OR Ser
719 <220> FEATURE:
720 <221> NAME/KEY: UNSURE
721 <222> LOCATION: (34)
722 <223> OTHER INFORMATION: Xaa = Ala OR His
724 <220> FEATURE:
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726 <222> LOCATION: (35)
727 <223> OTHER INFORMATION: Xaa = Ala OR Ser
729 <220> FEATURE:
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732 <223> OTHER INFORMATION: Xaa = Pro, Ser, OR Phe
734 <220> FEATURE:
735 <221> NAME/KEY: UNSURE
736 <222> LOCATION: (37)
737 <223> OTHER INFORMATION: Xaa = Pro, Thr, OR Ala
739 <220> FEATURE:
740 <221> NAME/KEY: UNSURE
741 <222> LOCATION: (38)
742 <223> OTHER INFORMATION: Xaa = Cys, Ala, Ser, OR Pro
744 <220> FEATURE:
745 <221> NAME/KEY: UNSURE
746 <222> LOCATION: (39)
747 <223> OTHER INFORMATION: Xaa = Arg, Pro, Thr, OR His
749 <220> FEATURE:
750 <221> NAME/KEY: UNSURE
751 <222> LOCATION: (40)
752 <223> OTHER INFORMATION: Xaa = Arg, Gly, OR NONE
754 <220> FEATURE:
755 <221> NAME/KEY: UNSURE
756 <222> LOCATION: (41)
757 <223> OTHER INFORMATION: Xaa = Arg OR Leu
759 <220> FEATURE:
760 <221> NAME/KEY: UNSURE
761 <222> LOCATION: (42)
762 <223> OTHER INFORMATION: Xaa = Ser OR Arg
764 <220> FEATURE:
765 <221> NAME/KEY: UNSURE
766 <222> LOCATION: (43)
767 <223> OTHER INFORMATION: Xaa = Arg, Cys, His, OR Gly
769 <220> FEATURE:

RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: .US/09/744,100C   TIME: 11:09:41

Input Set : **A:\BB1174 US PCT seqlistAmd.txt**
Output Set: **N:\CRF4\08082003\I744100C.raw**

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771 <222> LOCATION: (44)
772 <223> OTHER INFORMATION: Xaa = Arg OR Leu
774 <220> FEATURE:
775 <221> NAME/KEY: UNSURE
776 <222> LOCATION: (45)
777 <223> OTHER INFORMATION: Xaa = Arg OR Ala
779 <220> FEATURE:
780 <221> NAME/KEY: UNSURE
781 <222> LOCATION: (46)
782 <223> OTHER INFORMATION: Xaa = Ile, Leu, OR Val
784 <220> FEATURE:
785 <221> NAME/KEY: UNSURE
786 <222> LOCATION: (47)
787 <223> OTHER INFORMATION: Xaa = Ser, Ala, OR NONE
789 <220> FEATURE:
790 <221> NAME/KEY: UNSURE
791 <222> LOCATION: (48)
792 <223> OTHER INFORMATION: Xaa = Ala, Val, OR NONE
794 <220> FEATURE:
795 <221> NAME/KEY: UNSURE
796 <222> LOCATION: (49)
797 <223> OTHER INFORMATION: Xaa = Thr, Val, OR NONE
799 <220> FEATURE:
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801 <222> LOCATION: (50)
802 <223> OTHER INFORMATION: Xaa = Ala OR Ser
804 <220> FEATURE:
805 <221> NAME/KEY: UNSURE
806 <222> LOCATION: (51)
807 <223> OTHER INFORMATION: Xaa = Thr, Ala OR Asn
809 <220> FEATURE:
810 <221> NAME/KEY: UNSURE
811 <222> LOCATION: (52) (53)
812 <223> OTHER INFORMATION: Xaa = Ala OR Ser
814 <220> FEATURE:
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817 <223> OTHER INFORMATION: Xaa = Pro, Gln, OR Ser
819 <220> FEATURE:
820 <221> NAME/KEY: UNSURE
821 <222> LOCATION: (55)
822 <223> OTHER INFORMATION: Xaa = Ser, Ala, OR Pro
824 <220> FEATURE:
825 <221> NAME/KEY: UNSURE
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827 <223> OTHER INFORMATION: Xaa = Pro, Ala, OR Leu
829 <220> FEATURE:
830 <221> NAME/KEY: UNSURE
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RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: US/09/744,100C   TIME: 11:09:41

Input Set : A:\BB1174 US PCT seqlistAmd.txt
Output Set: N:\CRF4\08082003\I744100C.raw

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832 <223> OTHER INFORMATION: Xaa = Ser, Leu, OR Ala
834 <220> FEATURE:
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839 <220> FEATURE:
840 <221> NAME/KEY: UNSURE
841 <222> LOCATION: (60)
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844 <220> FEATURE:
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847 <223> OTHER INFORMATION: Xaa = Ala OR Thr
849 <220> FEATURE:
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851 <222> LOCATION: (63)
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854 <220> FEATURE:
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857 <223> OTHER INFORMATION: Xaa = Glu OR Ala
859 <220> FEATURE:
860 <221> NAME/KEY: UNSURE
861 <222> LOCATION: (65)
862 <223> OTHER INFORMATION: Xaa = Ala, Ser, OR Gly
864 <220> FEATURE:
865 <221> NAME/KEY: UNSURE
866 <222> LOCATION: (66)
867 <223> OTHER INFORMATION: Xaa = Leu OR Gln
869 <220> FEATURE:
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871 <222> LOCATION: (67)
872 <223> OTHER INFORMATION: Xaa = Ser, Tyr, OR Asn
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875 <221> NAME/KEY: UNSURE
876 <222> LOCATION: (75)
877 <223> OTHER INFORMATION: Xaa = Ala OR Ser
879 <220> FEATURE:
880 <221> NAME/KEY: UNSURE
881 <222> LOCATION: (81)
882 <223> OTHER INFORMATION: Xaa = Arg OR Lys
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886 <222> LOCATION: (83)
887 <223> OTHER INFORMATION: Xaa = Arg OR Lys
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890 <221> NAME/KEY: UNSURE
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1266 <221> NAME/KEY: UNSURE
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1272 <222> LOCATION: (298)
1273 <223> OTHER INFORMATION: Xaa = Gly OR Ala
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1277 <222> LOCATION: (306)
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1281 <221> NAME/KEY: UNSURE
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1283 <223> OTHER INFORMATION: Xaa = Arg OR His
1285 <220> FEATURE:
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1287 <222> LOCATION: (311)
1288 <223> OTHER INFORMATION: Xaa = Ala OR Ser
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1298 <223> OTHER INFORMATION: Xaa = Thr OR Ala
1300 <400> SEQUENCE: 12
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1304 Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1305              20                  25                  30
1307 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1308          35                  40                  45
1310 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ala Xaa Xaa Ala Xaa Xaa
1311      50                  55                  60
1313 Xaa Xaa Xaa Arg Val Asp Val Leu Ser Glu Xaa Leu Pro Phe Ile Gln
1314  65                  70                  75                  80
1316 Xaa Phe Xaa Gly Lys Thr Xaa Val Val Lys Tyr Gly Gly Ala Ala Met
1317                  85                  90                  95
1319 Lys Ser Pro Glu Leu Gln Ala Ser Val Ile Xaa Asp Leu Val Leu Leu
1320              100                 105                 110
1322 Ser Cys Val Gly Leu Xaa Pro Val Leu Val His Gly Gly Gly Pro Glu
1323              115                 120                 125
1325 Ile Asn Ser Trp Leu Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Phe Arg Xaa
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RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: US/09/744,100C   TIME: 11:09:41

Input Set : A:\BB1174 US PCT seqlistAmd.txt
Output Set: N:\CRF4\08082003\I744100C.raw

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902 <223> OTHER INFORMATION: Xaa = Arg OR His
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906 <222> LOCATION: (134)
907 <223> OTHER INFORMATION: Xaa = Leu, Gly, OR Gln
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911 <222> LOCATION: (136)
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937 <223> OTHER INFORMATION: Xaa = Gln OR Val
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951 <222> LOCATION: (153)
952 <223> OTHER INFORMATION: Xaa = Thr OR Asn
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1002 <222> LOCATION: (179)
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1005 <220> FEATURE:
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1012 <222> LOCATION: (182)
1013 <223> OTHER INFORMATION: Xaa = Gly OR Ser
1015 <220> FEATURE:
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1103 <223> OTHER INFORMATION: Xaa = Val OR Lys
1105 <220> FEATURE:
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1120 <220> FEATURE:
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1123 <223> OTHER INFORMATION: Xaa = Arg OR His
1125 <220> FEATURE:
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1130 <220> FEATURE:
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RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: US/09/744,100C   TIME: 11:09:41

Input Set : **A:\BB1174 US PCT seqlistAmd.txt**
Output Set: **N:\CRF4\08082003\I744100C.raw**

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1138 <223> OTHER INFORMATION: Xaa = Ala OR Asp
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1141 <221> NAME/KEY: UNSURE
1142 <222> LOCATION: (222)
1143 <223> OTHER INFORMATION: Xaa = Thr, Ala, OR Ser
1145 <220> FEATURE:
1146 <221> NAME/KEY: UNSURE
1147 <222> LOCATION: (223)
1148 <223> OTHER INFORMATION: Xaa = Gly OR Ser
1150 <220> FEATURE:
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1153 <223> OTHER INFORMATION: Xaa = Val OR Ile
1155 <220> FEATURE:
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1158 <223> OTHER INFORMATION: Xaa = Ala OR Thr
1160 <220> FEATURE:
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1163 <223> OTHER INFORMATION: Xaa = Thr OR Ser
1165 <220> FEATURE:
1166 <221> NAME/KEY: UNSURE
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1168 <223> OTHER INFORMATION: Xaa = Gly OR Ala
1170 <220> FEATURE:
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1182 <222> LOCATION: (247)
1183 <223> OTHER INFORMATION: Xaa = Ala OR Val
1185 <220> FEATURE:
1186 <221> NAME/KEY: UNSURE
1187 <222> LOCATION: (251)
1188 <223> OTHER INFORMATION: Xaa = Ile OR Leu
1190 <220> FEATURE:
1191 <221> NAME/KEY: UNSURE
1192 <222> LOCATION: (254)
1193 <223> OTHER INFORMATION: Xaa = Ala OR Ser
1195 <220> FEATURE:
1196 <221> NAME/KEY: UNSURE
1197 <222> LOCATION: (255)
1198 <223> OTHER INFORMATION: Xaa = Ile, Leu, OR Val
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1202 <222> LOCATION: (261)
1203 <223> OTHER INFORMATION: Xaa = Leu OR Ile
1205 <220> FEATURE:
1206 <221> NAME/KEY: UNSURE
1207 <222> LOCATION: (263)
1208 <223> OTHER INFORMATION: Xaa = Ile OR Leu
1210 <220> FEATURE:
1211 <221> NAME/KEY: UNSURE
1212 <222> LOCATION: (267)
1213 <223> OTHER INFORMATION: Xaa = Ser OR Ala
1215 <220> FEATURE:
1216 <221> NAME/KEY: UNSURE
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1218 <223> OTHER INFORMATION: Xaa = Glu OR Ala
1220 <220> FEATURE:
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1223 <223> OTHER INFORMATION: Xaa = Asp OR Asn
1225 <220> FEATURE:
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1227 <222> LOCATION: (277)
1228 <223> OTHER INFORMATION: Xaa = Gly OR Asp
1230 <220> FEATURE:
1231 <221> NAME/KEY: UNSURE
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1233 <223> OTHER INFORMATION: Xaa = Val, Glu, OR Lys
1235 <220> FEATURE:
1236 <221> NAME/KEY: UNSURE
1237 <222> LOCATION: (283)
1238 <223> OTHER INFORMATION: Xaa = Val OR Ile
1240 <220> FEATURE:
1241 <221> NAME/KEY: UNSURE
1242 <222> LOCATION: (286)
1243 <223> OTHER INFORMATION: Xaa = Lys OR Ala
1245 <220> FEATURE:
1246 <221> NAME/KEY: UNSURE
1247 <222> LOCATION: (290)
1248 <223> OTHER INFORMATION: Xaa = Lys, Gln, OR Arg
1250 <220> FEATURE:
1251 <221> NAME/KEY: UNSURE
1252 <222> LOCATION: (292)
1253 <223> OTHER INFORMATION: Xaa = Val OR Met
1255 <220> FEATURE:
1256 <221> NAME/KEY: UNSURE
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1258 <223> OTHER INFORMATION: Xaa = Glu OR Ala
1260 <220> FEATURE:
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RAW SEQUENCE LISTING   DATE: 08/08/2003
PATENT APPLICATION: US/09/744,100C   TIME: 11:09:41

Input Set : **A:\BB1174 US PCT seqlistAmd.txt**
Output Set: **N:\CRF4\08082003\I744100C.raw**

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1326     130                  135                  140
1328 Gly Leu Arg Val Thr Asp Ala Xaa Xaa Met Glu Xaa Val Xaa Met Val
1329 145                  150              155                  160
1331 Leu Val Xaa Lys Val Asn Lys Xaa Leu Xaa Ser Leu Ile Xaa Xaa Xaa
1332                  165              170                  175
1334 Gly Xaa Xaa Ala Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Arg Leu Xaa Xaa
1335              180          185                  190
1337 Xaa Arg Pro Xaa Pro Xaa Xaa Xaa Xaa Leu Xaa Xaa Val Gly Xaa Val
1338          195              200              205
1340 Xaa Arg Xaa Xaa Xaa Xaa Val Leu Xaa Xaa Xaa Ile Xaa Xaa Xaa His
1341     210              215              220
1343 Ile Pro Val Xaa Xaa Xaa Val Xaa Ala Asp Glu Xaa Gly Gln Xaa Tyr
1344 225              230              235              240
1346 Asn Ile Asn Ala Asp Thr Xaa Ala Gly Glu Xaa Ala Ala Xaa Xaa Gly
1347              245              250              255
1349 Ala Glu Lys Leu Xaa Leu Xaa Thr Asp Val Xaa Gly Ile Leu Xaa Asp
1350          260              265              270
1352 Arg Xaa Asp Pro Xaa Ser Leu Val Lys Xaa Xaa Asp Ile Xaa Gly Val
1353          275              280              285
1355 Arg Xaa Met Xaa Xaa Xaa Gly Xaa Val Xaa Gly Gly Met Ile Pro Lys
1356     290              295              300
1358 Val Xaa Cys Cys Val Xaa Xaa Leu Ala Gln Gly Val Xaa Thr Ala Ser
1359 305              310              315              320
1361 Ile Leu Asp Gly Arg Val Pro His Ser Leu Leu Leu Glu Ile Leu Thr
1362              325              330              335
1364 Asp Glu Gly Xaa Gly Thr Met Ile Thr Gly
1365              340              345
E--> 1378 (23)
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VERIFICATION SUMMARY   DATE: 08/08/2003
PATENT APPLICATION: **US/09/744,100C**   TIME: 11:09:42

Input Set : **A:\BB1174 US PCT seqlistAmd.txt**
Output Set: **N:\CRF4\08082003\I744100C.raw**

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L:147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:600
L:205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:192
L:354 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:480
M:341 Repeated in SeqNo=7
L:408 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:128
M:341 Repeated in SeqNo=8
L:1301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
M:341 Repeated in SeqNo=12
L:1378 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:12
```